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## Foreign Documents Branch C I A Periodical Abstracts

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Number 62

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NOTE: All periodicals listed below are available in Foreign Documents Branch, CIA.

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"Doklady Akademii Nauk SSSR, Novaya Seriya" (Reports of the Academy of Sciences of the USSR, New Series) Cards 2-6, 9, 54-68, 92-98	Vol LX No 2	Apr 1948
"Mekhanizatsiya Trudoyemkikh i Tyazhelykh Rabot" (Mechanization of Labor-Consuming and Heavy Work) Cards 40-43, 79-81	No 1	Jan 1948
"Mekhanizatsiya Trudoyemkikh i Tyazhelykh Rabot" (Mechanization of Labor-Consuming and Heavy Work) Cards 44-49, 82	No 2	Feb 1948
"Pochvovedeniye" (Soil Science) Cards 101-105	No 2	Feb 1948
"Ugol" (Coal) Cards 53, 83-91	No 3	Mar 1948
"Vestnik Inzhenerov i Tekhnikov" (Herald of Engineers and Technicians) Cards 7, 10-17	No 1	Jan/Feb 1948
"Vestnik Mashinostroyeniya" (Herald of Machine Construction) Cards 21-30	No 2	Feb 1948
"Vestnik Mashinostroyeniya" (Herald of Machine Construction) Cards 8, 31-39	No 3	Mar 1948
"Zavodskaya Laboratoriya" (Factory Laboratory) Cards 1, 50-52, 69-78, 99, 100	Vol XIV No 3	Mar 1948

NOTE

In indexing these abstracts the following guides are used: MEDICINE - "Quarterly Cumulative Index Medicus," American Medical Association; CHEMISTRY - "Chemical Abstracts Subject Index," American Chemical Society; GENERAL - "Subject Headings for Technical Libraries," US Department of Commerce, Office of Technical Services.

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USSR/Chemistry - Water Determination Mar 1948  
Chemistry - Hydrogen Fluoride

"Water Determination in Liquid Hydrogen Fluoride,"  
M. M. Raynes, State Inst Applied Chem, 3 pp

"Zavod Lab" Vol XIV, No 3

Method for direct determination of humidity in liquid hydrogen fluoride is also known as Fisher's reaction. Industrial mixtures, usually used in the experiments, have no effect on the precision of data obtained.

FDB 62T1  
USSR/Chemistry - Gypsum - Solubility Apr 1948  
Chemistry - Potassium Sulfate

"Trial Computation of the Solubility of Potassium Sulfate in a Water Solution of Sodium Chloride," E. B. Shternina, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2

Data on the solubility of gypsum in water solutions of salt, and carbon dioxide at 25° temperature, from which it was simple to determine the coefficient of activity of potassium sulfate. Debye's and Hueckel's formulas were used to determine this activity. Submitted by Academician G. G. Urazov, 13 Feb 1948

FDB 62T3  
USSR/Chemistry - Bisulfites Apr 1948  
Chemistry - Crystal Forms

"Mechanisms of the Bisulfite Reaction," V. N. Ufimtsev, Inst Malaria, Med Parasitol, and Helminthol, Acad Med Sci USSR, 3 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2

Describes tests conducted to determine the reliability of Cowdrey's experiments on subject reaction. Author obtained dipotassium salts of the bisulfite bond of 1-naftol-4-sulfo acid V, which in its pure form appeared as colorless crystalline prisms. Submitted by Academician A. Ye. Poray-Koshits, 13 Feb 1948.

FDB 62T5  
USSR/Chemistry - Hydrocarbons - Synthesis Apr 1948  
Chemistry - Methylene - Formation

"New Hydrocarbon Synthesis With Participation of Carbon Monoxide," Academician N. D. Zelinskiy, 3 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2

Summary of participation of methylene radicals in formation of hydrocarbons from carbon monoxide and hydrogen. Submitted, 19 Feb 1948.

FDB 62T6

USSR/Chemistry - Malic Acid - Transformation Apr 1948  
Chemistry - Water, Heavy

"Mechanisms of the Transformation of Malic Acid Under the Influence of Maliodehydrazide," S. Ya. Davydova, A. S. Konikova, Lab Physiol Chem, Acad Sci USSR, 2½ pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2

Describes experiments conducted to determine the lability of hydrogen, and in particular to determine the transformation of malic acid under the effects of enzymes of maliodehydrazide. Tests conducted in medium containing heavy water whose terminal concentration was 20%. Submitted by Academician Ya. O. Parnas, 14 Feb 1948.

FDB 62T2  
USSR/Chemistry - Platinum Compounds Apr 1948  
Chemistry - Stability

"Compounds of Bivalent Platinum and Hydrazide of Carbonic Acid," Academician I. I. Chernyayev, A. I. Mashentsev, Inst Gen and Inorg Chem imeni N. S. Kurnakov, Acad Sci USSR, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2

Study of the reaction of complex-formed hydrazide of carbonic acid used in the form of ammonia salt  $\text{NH}_4\text{SCSNHNEH}_2$ . There was rapid disintegration of the hydrazide and precipitation of metals forming undetermined chemical compound. Stability and purity of the prepared compound depend greatly on time factor,

FDB 62T4  
USSR/Chemistry - Platinum Compounds (Contd) Apr 1948  
and the method used in separating it from solution. Submitted, 14 Jan 1948.

FDB 62T4  
USSR/Electricity Jan 1948  
Lighting, Industrial  
Illumination - Standards

"New Standards," N. V. Kozlov, Engr, 2½ pp

"Vest Inzher i Tekh" No 1

All-Union Committee on Standards, 22 Jul 1947, confirmed series of standards on artificial lighting in industrial enterprises. Recommendations have the following sections: 1) fields in which these standards apply, 2) general status, 3) equipment for inside illumination, 4) equipment for outdoor illumination, and 5) constants in illumination.

FDB 62T7

RESTRICTED	FDB Periodical Abstracts Scientific No 62	RESTRICTED
USSR/Electricity Machinery - Electrical Hydroelectric Installations  "The Permanent Display, 'Electrical Industry of the USSR'," M. L. Ginzburg, Engr, 7 pp  "Vest Mash" No 3  This permanent exhibition was authorized by the Council of Ministers. The Minister of Electrical Industries set up this display in the Polytechnical Museum in honor of the 30th anniversary of the Great October Revolution. Its aim is to popularize Soviet achievements in electrical machinery. Photographs of several electrical installations, such as 77,500-kw hydroelec-  FDB 62T8	USSR/Electronics Instruments, Measuring Bridges  "The Admissibility of the Principle of Absolute Invariability in Real Physical Systems," Academician V. S. Kulebakin, 4 pp  "Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2  Attempts to show that conditions of invariability are the fundamentals on which real physical systems are based and operate. Such systems are widely used in measuring techniques and automatics, and are usually in the form of compensatory and electrical bridge schemes. Submitted, 17 Feb 1948.  FDB 62T9	
USSR/Electricity (Contd) Mar 1948  tric generator (Dnepr), and model of 110-kw booster station.  FDB 62T8	USSR/Engineering Efficiency, Industrial Industrial Development  "Architecture in Soviet Industrial Construction," Prof L. A. Serk; M. G. Kostyukovskiy, Engr; N. P. Baguzov, Archt, 4 pp  "Vest Inzher i Tekh" No 1  The October Revolution changed the USSR from an agricultural country into one of the leading industrial nations of the world. At the same time, there was great increased demand for new industrial buildings to house the rapidly expanding industry. Briefly describes victories achieved over architectural problems created by this new role of the Soviet Union. FDB 62T10	
USSR/Engineering Porosity Steel, Chromium  "Effect of Porosity on the Rust Resistance of Chrome-Plated Decorative Steel," Docent G. T. Bakhvalov, Candidate Tech Sci, Mem, Soc of Galvanizers, VSNITO, 4 1/2 pp  "Vest Inzher i Tekh" No 1  Tests to determine the effect of the thickness of chrome plate on the anticorrosive characteristics of decorative steel. Steel having four layers of lead, lead, nickel, and chrome of various thicknesses used. Showed that steel plated with total thickness of 38 1/4  FDB 62T11	USSR/Engineering Machinery - Design Machinery - Performance  "Methods for Calculating the Economy of New Types of Machines," A. S. Konsen, Candidate Econ Sci, Mem, Soc of Machine Constructors, 3 pp  "Vest Inzher i Tekh" No 1  In spite of the fact that operating performance of many new machines might be the same, there are many factors that will cause great differences in the economy regime. Economy is based on wear caused to products of the machine, and to the machine itself. Briefly discusses formulas which can be used to calculate the economy of machines. FDB 62T12	
USSR/Engineering (Contd) Jan 1948  without porosity after mechanical buffing resisted the corrosive effects of sodium chloride mist, permitting conclusion that this type of plating would protect steel even under most difficult operating conditions.  FDB 62T11	USSR/Engineering Efficiency, Industrial Statistics  "The All-Union Council of Scientific Engineering-Technical Societies" 1 p  "Vest Inzher i Tekh" No 1  Resolutions of the members of societies for Socialist Competition in honor of 30th anniversary of Great October Revolution. Resolved to show better production figures by using new techniques and technology.  FDB 62T13	

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USSR/Engineering Alloys - Standards Instruments, Scientific	Jan 1948	USSR/Engineering Harbors - Equipment Mechanization Jan 1948
"The Society of Engineers" 1 p		"The Society of Water Transport Workers" 2 1/4 pp
"Vest Inzher i Tekh" No 1		"Vest Inzher i Tekh" No 1
Lists articles presented and read, and some of the resolutions adopted. One of the vital resolutions was development of new instruments and new means of measurements to maintain high-quality standards of new-type precision alloys.		Briefly describes resolutions of subject society to institute new technologies and techniques in mechanization of port facilities in Soviet Union. Some 215 delegates participated, representing 87 organizations under NITO. Twenty articles submitted for reading. These were on the Five-Year Plan for mechanization of ports, instituting new techniques in mechanization of ports, and standardizing port and harbor crane and transport equipment.
FDB 62T14		FDB 62T15
USSR/Engineering Bibliography Jan 1948		USSR/Engineering Machines, Metal-Cutting Tools, Machine - Assembly Jan 1948
"Review of 'Russian Techniques,' by Prof V. V. Danilovskiy," I. V. Abramov, Candidate Tech Sci, 5 pp		"A. P. Vladziyevskiy and M. O. Yakobson's 'Assembly, Operation and Repair of Metal-Cutting Tools'," R. A. Noskin, Chm, Equipment Repair Committee, Machine Constructors Soc, 2 p
"Vest Inzher i Tekh" No 1		"Vest Inzher i Tekh" No 1
Recently, great contribution was made to literature on the history of Soviet techniques. In addition to being true presentation of achievements of technician and engineer, it has widespread political implications. In spite of few immaterial errors, it is acclaimed as great contribution.		Reviews handbook on: 1) machine-tool assemblies, 2) operation of metal-cutting machine tools, 3) repairs of machine tools, and 4) technological processes during repair of machine tools. Book is helpful to engineers and technicians. Noskin suggests, however,
FDB 62T16		FDB 62T17
USSR/Engineering Plastics Feb 1948		USSR/Engineering (Contd) Jan 1948
"Restoration of Parts With Plastics," G. Sysoyev, Dir, Accumulator Stations, 1/8 p		that the book be brought up-to-date before the second printing.
"Avto" No 2		
Saratov Repair and Charging Station for Batteries has organized section which will use plastics to repair battery cases, and other parts manufactured out of plastics, ebonite, or glass. This will be accomplished with the aid of glue developed by Professor I. Nazarov, Laureate of the Stalin Prize. Workers of this plant have also organized facilities for repair of household articles made of plastics, glass, ebonite or porcelain.		
FDB 62T18		FDB 62T17
USSR/Engineering (Contd) Feb 1948		USSR/Engineering Automobiles Automobile Industry Feb 1948
thus rendering great service to the populace of Saratov.		"The Moskvich Automobile," N. Borisov, Engr, 7 pp
		"Avto" No 2
		The Moskvich is variation of the KIM-10, and includes all the advantages and many improvements of the shortcomings of its predecessor. Table compares the performance of the Moskvich, KIM-10, Pobeda, and GAZ-M-1. The Moskvich is 1947 model, 4-door, 4-cylinder, and 23-hp at 3,400 rpm, having base of 2,340 mm. Front end has individual wheel suspension, and the rear end, leaf springs. Hydraulic drive,
FDB 62T18		FDB 62T19

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USSR/Engineering (Contd) Feb 1948 top speed 90 km per hour, and average fuel consumption 9 liters per 100 km.	USSR/Engineering Feb 1948 Fuel - Conservation Fuels - Automotive "Competition for Fuel Conservation" 1 p "Avto" No 2 Recently, the Moscow Central Auto Club Osoaviakhim had a competition among its members to determine the person capable of accomplishing the greatest fuel conservation. Lists prize winners and distances they covered in various cars using specified amounts of petrol.	
FDB 62T19	FDB 62T20	
USSR/Engineering Feb 1948 Machinery - Construction Stability, Structural "Problem of Stability in Our Machine Construction," S. V. Serensen, Act Mem Acad Sci USSR, 8 pp "Vest Mash" No 2 Advances in the technology of machine construction have given rise to whole series of new requirements for testing various new machines and equipment. Briefly discusses how the Soviet Union is maintaining high standards in spite of rapid advances in machine construction technology.	USSR/Engineering Feb 1948 Springs - Materials Elasticity - Stability "The Struggle for Materials for Springs Which Will Operate at Increased Temperatures," V. I. Smirnov, Candidate Tech Sci, 4 pp "Vest Mash" No 2 Shortcomings of Hook's Laws are that they do not take into account elastic aftereffects or elastic hysteresis. Briefly describes methods that work for the selection of spring material maintaining its elasticity even at high temperatures.	
FDB 62T21	FDB 62T22	
USSR/Engineering Feb 1948 Machinery - Construction Gears - Lubrication "Computations and Construction of Machine Parts," A. I. Petrusevich, Engr, 5 pp "Vest Mash" No 2 Discusses use of antiscoring lubricants for gears, and advantages resulting from use of this type of lubricant in automobile transmissions.	USSR/Engineering Feb 1948 Tempering, High-Frequency Inductors "New Type of Inductors for High-Frequency Tempering," V. V. Aleksandrov, S. M. Gamazkov, Engineers, 3 1/2 pp "Vest Mash" No 2 Discusses single-wound inductors. Much attention is paid to limiting of the frequency, as it is more complicated process than that of multiple-wound inductors. States that single-wound inductors are simple to manufacture, but have series of shortcomings. Inductors manufactured from round or profiled copper tubes.	
FDB 62T23	FDB 62T24	
USSR/Engineering Feb 1948 Locomotives, Steam "The Series L, 1-5-0 Freight Locomotive," L. M. Sytykh, Engr, 1 1/2 pp "Vest Mash" No 2 Briefs performance of subject locomotive produced by Kolomensk Locomotive Works imeni V. V. Kuybyshev. Locomotive designed by Lebedyanskiy. Boiler has operating pressure of 14 kg per sq cm with steam temperatures of 380-410°.	USSR/Engineering Feb 1948 Machines, Molding Foundries "New Molding Machines for Foundries," P. S. Kosenkov, N. N. Morozov, Engineers, 4 1/2 pp "Vest Mash" No 2 Briefly describes operation of Type 265 molding machine. "Krasnaya Presnya" Moscow factory that manufactures casting machines produces Type 233 molding machines. Discusses dimensions, performance, and operation of Type 233. Includes series of blueprint sketches of latter.	
FDB 62T25	FDB 62T26	



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USSR/Engineering Machinery - Construction Machinery - Design  "Multitool Semiautomatic Machine," I. M. Levando, Engr, 2 pp  "Vest Mash" No 2  This machine designed by Pribryukov is produced by "Krasnyy Proletariy" Works, and known as Model 71. Briefly describes characteristics and performance.	Feb 1948	USSR/Engineering Machinery - Construction Efficiency, Industrial  "High Production in Sections of the Ural Machine Works imeni S. Ordzhonikidze," B. G. Muzrukov, Hero of Socialist Labor, Engr, 6 pp  "Vest Mash" No 2  This plant has been producing 100% for civilian consumption since 1946. Briefly describes improvements made at subject plant to keep up with the new tempo for production according to the postwar Five-Year Plan.	Feb 1948
FDB	62T27	FDB	62T28
USSR/Engineering Machinery - Construction Efficiency, Industrial  "Heavy Machine Construction Fulfills the Five-Year Plan Ahead of Schedule," A. P. Kogan, Engr, 3½ pp  "Vest Mash" No 2  Briefly shows how heavy machinery is contributing to fulfillment of the postwar Five-Year Plan in 4 years. Gives vague production figures in percentage comparisons with prewar production.	Feb 1948	USSR/Engineering Machinery - Construction Bibliography  "In the Pages of Soviet Journals in 1947," Ya. S. Golitsyn, 2 pp  "Vest Mash" No 2  Briefly lists articles on various types of construction which appeared in the following journals: "Avtogennoye Delo" (11 and 12); "Avtomobil'naya Promyshlennost'" (12); "Vestnik Inzhenerov i Tekhnikov" (9); "Zavodskaya Laboratoriya" (11); "Stal'" (11); "Stanki i Instrument" (11 and 12); "Sudostroyeniye" (5); and others.	Feb 1948
FDB	62T29	FDB	62T30
USSR/Engineering Agricultural Machinery Machinery - Construction  "The Trailer Combine 'Stalinet-6'," A. A. Vekser, Engr, 1 p  "Vest Mash" No 3  Briefs performance of subject farm combine manufactured by "RostSel'Mash" and "Kommunar" combine construction works. The designers, Prof Vasilenko and Engineers Krasnichenko, Proshunin, and Popov, were awarded 1947 Stalin Prize. Combine was used in the 1947 harvest and gave excellent results.	Mar 1948	USSR/Engineering Tools, Cutting Stability, Structural  "Intensity of Wear and the Durability of Cutting Instruments," Prof I. M. Besprozvanny, Dr Tech Sci, Laureate of Stalin Prize, 6½ pp  "Vest Mash" No 3  Gives method of estimating durability of cutting instruments based on the initial degree of wear of the tool. It is also possible to determine the quality of the material of the cutting instrument. Further study is desired to establish optimum cutting speeds at which cutting instruments would give optimum service.	Mar 1948
FDB	62T31	FDB	62T32
USSR/Engineering Machinery - Construction Tools, Machine  "Combined Processing of Large Parts," K. P. Malyshkin, Engr, 6 pp  "Vest Mash" No 3  Discusses method instituted at UralMashZavod whereby all processing and finishing of large-scale parts is done in one spot. This is accomplished by stationary and portable tools. Method has shown time factor saving of 20-30% in cases where established time norms used to be 1,000 man-hours. Shows typical tool layout, and indicates some of the tools necessary for setting up this system.	Mar 1948	USSR/Engineering Casting, Centrifugal Machinery - Construction  "Results of a Conference on Centrifugal Casting," T. B. Kanevskaya, Candidate Tech Sci, 4½ pp  "Vest Mash" No 3  Centrifugal method permits casting of metal parts without any finishing. At the same time, such foreign material as metal particles or airholes is centrifuged to the center. The amount of metal used is also cut down. Gives some information on the technology of centrifugal casting.	Mar 1948
FDB	62T33	FDB	62T34

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USSR/Engineering Machinery - Construction Welding - Electrodes Mar 1948  "New Electrodes Produced by the Central Scientific and Research Institute of Technology and Machine Construction," A. A. Chekanov, Engr, 2 pp  "Vest Mash" No 3  Characteristics and performance data of new electrodes developed by subject Institute to be used for welding. Very fine results have been obtained with these new electrodes in actual operations, and it is expected that they will be very widely used.	USSR/Engineering Tools, Machine - Standards Mar 1948  "New Standards," V. P., 2 pp  "Vest Mash" No 3  Lists new governmental standards set up to govern the performance and operation of machine tools.	
FDB 62T35	FDB 62T36	
USSR/Engineering Machinery - Construction Stability, Structural Mar 1948  "Fatigue Resistance in Machine Construction," I. A. Oding, Corr Mem, Acad Sci USSR, 6 pp  "Vest Mash" No 3  In castings it is possible to increase the stability of cast parts, and thus control their internal tensions. Discusses stability at increased temperatures, surface stability of metals, stability of metals as factor in their use in construction, and briefly comments on the yet unsolved problem of stability of metals.	USSR/Engineering Machines, Milling Tools, Cutting Mar 1948  "Lathe-Milling Machine for Working Pairs of Wheels," I. M. Levando, Engr, 1 p  "Vest Mash" No 3  This tool, known as the 1835-MK177 produced by the "Krasny Proletariy" Works, is used for the working of two wheels simultaneously. It can accommodate pair of wheels having axle 1,524 mm long. Briefly describes characteristics and performance data.	
FDB 62T37	FDB 62T38	
USSR/Engineering Machinery - Construction Bibliography Mar 1948  "In the Pages of Soviet Literature, 1947 - 1948," Ya. S. Golitsyn, 2 pp  "Vest Mash" No 3  Lists articles on machine construction which appeared in: "Avtogennoye Delo" (1); "Zavodskaya Laboratoriya" (12); "Promyshlennaya Energetika" (12); and "Stanki i Instrument" (1, 1948), etc.	USSR/Engineering Industrial Equipment Jan 1948  "Guide for Development of Socialistic Production" 2 pp  "Mekh" No 1  All patriotic nationals are striving to complete the Five-Year Plan in 4 years. One of the primary methods to accomplish this is mass mechanization of work in the USSR. Describes mechanization that has been accomplished. Mechanization in Eastern coal mines is insufficient.	
FDB 62T39	FDB 62T40	
USSR/Engineering Mining Industry Tunnels, Underground - Construction Jan 1948  "Shield Method of Sinking Shafts in Mining Operations," A. G. Tankilevich, Engr, Laureate of Stalin Prize; A. S. Arkhangel'skiy, Engr, 5½ pp  "Mekh" No 1  Describes use of caisson-type constructions as aid to sinking mine shafts. Also briefly discusses the process of making subterranean tunnels using caisson construction.	USSR/Engineering Vibrators, Concrete Tools, Electric Jan 1948  "An Electric Vibrator With a Flexible Shaft for Settling Concrete," A. K. Shtaf, Engr, 1 p  "Mekh" No 1  Describes subject piece of equipment produced by the Ministry of Construction and Highway-Machinery Designing and Production.	
FDB 62T41	FDB 62T42	

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USSR/Engineering Tools, Cutting Hydromechanics		Jan 1948		USSR/Engineering Coal Industry Feb 1948	
"Expert's Appraisal of the MV-60 and KMP-1 Cutting Machines, and the Hydromechanization of Earth and Mining Operations" 2 pp				"Mechanization of the Eastern Coal Industry, and Production of Coal Mining Machinery," D. G. Onika, Minister of Coal Industry Eastern Regions USSR, 7 pp	
"Mekh" No 1				"Mekh" No 2	
Describes various defects in the MV-60 and KMP-1 automatic cutting machines. Only few test machines have been manufactured, and it is hoped that deficiencies can be corrected soon in order to put this equipment on mass production basis. Briefly discusses advantages of the hydromechanical method for earth-moving and mining operations.				Summary of work accomplished in 1947 and perspectives for 1948: Methods for working deposits, mechanization of preparatory operations, improving techniques for dressing operations, improvements of underground transportation, and production of various mining machinery and equipment.	
FDB		62T43		FDB	
USSR/Engineering Coal Industry		Feb 1948		USSR/Engineering Tractors, Electric Lumber Industry Feb 1948	
"Technical Re-equipping of the Coal Industry," A. F. Zasyad'ko, Minister of Coal Industry, Western Regions USSR, 4 pp				"The Use of Electric Tractors at Electrified Lumber Camps," B. A. Il'in, Engr, 3 1/2 pp	
"Mekh" No 2				"Mekh" No 2	
Brief summary of results obtained during 1947 from the mechanization of coal production and perspectives for 1948. Mentions comprehensive list of new coal-digging combines and complex machines produced in 1947.				Describes advantages obtained from use of the ET-4 electric tractor, manufactured by VNITP, at lumber camps having provisions for electrification of the various operations. Tractor is equipped with goose-neck crane. It operates on 380 volts AC, but when operating in lumber industries, this has to be lowered to 220 volts.	
FDB		62T45		FDB	
USSR/Engineering Drills, Electric		Feb 1948		USSR/Engineering Excavating Machinery Mining Equipment Feb 1948	
"A New Electrical Core Drill," V. T. Mikhaylov, Dr Tech Sci, 1 p				"Testing the Ural Machine Plant SE-3 Excavator," Prof N. G. Dombrovskiy, Dr Tech Sci, 3 1/2 pp	
"Mekh" No 2				"Mekh" No 2	
Briefly describes operating characteristics of the EBK-2M drill. Operating data obtained from use of this drill at the Novo-Azovskiy mines, RostovUgol' Combine.				Performance data obtained from operating subject excavator at titanium-magnetite deposits in Pervouralsk. Tests showed that of 368 hours of use, only 77.3 hours were used in actual constructive work of the excavator. Remainder of the time was taken up in preparation and preliminary testing. It can handle up to 189 cu m of ore per hour. It is power-	
FDB		62T47		FDB	
USSR/Engineering Lumber Industry		Feb 1948		USSR/Engineering (Contd) Feb 1948	
"Mechanization, Key to the Advance of the Lumber Industry" 2 pp				ful and capable of doing much work. Gooseneck crane manufactured of high-speed manganese steel. Welded construction of chassis and revolving platform.	
"Mekh" No 2					
Briefly describes mechanization measures taken in the lumber industry in attempt to complete the present Five-Year Plan in 4 years.					
FDB		62T49		FDB	
				62T48	

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USSR/Engineering Coke Stability, Static Mar 1948 "New Apparatus for Determining the Stability of Coke by Shock Effects," D. M. Chernyshev, Inst Combustible Materials, Acad Sci USSR, 3½ pp "Zavod Lab" Vol XIV, No 3 Briefly describes characteristics of new apparatus, and discusses use of apparatus for obtaining samples to be used in testing the stability of coke. Basic principle is impact test on the coke.	USSR/Engineering Ultrasonic Apparatus Detection, Ultrasonic Mar 1948 "Impulse Supersonic Defectoscope," D. S. Shrayber, All-Union Inst Aviation Materials, 6½ pp "Zavod Lab" Vol XIV, No 3 Describes method whereby supersonic impulses are used to detect flaws in all kinds of parts. Explains principles of operation of this apparatus. It is much simpler to operate than the prototype produced in 1941.	
FDB 62T50	FDB 62T51	
USSR/Engineering Adhesives - Strength Instruments, Measuring Mar 1948 "A Device for Determining Adhesiveness," Yu. L. Margolina, S. S. Voyutskiy, Cent Inst Leather Substitutes, 5 pp "Zavod Lab" Vol XIV, No 3 Simple and easy apparatus to determine adhesiveness. Studies conducted on the effect of the dimensions of the operating surfaces and thickness of the liquid layer between surfaces. Determined that equiviscous liquids could have different adhesive qualities, and that adhesiveness is result of rheologic characteristics of liquid systems.	USSR/Engineering Supports, Metal Mining Equipment Mar 1948 "Experience With the Use of Metal Piles in the Don Basin," M. N. Geleskul, 3 pp "Ugol'" No 3 Describes various methods of using metal piles employed by number of coal mines in the Don Basin, and states that use of metal piles for layers having very thick seams or false roof is not recommended.	
FDB 62T52	FDB 62T53	
USSR/Geology Stratification Apr 1948 "Celestine in the Cambrian Deposits of the Angar Region," Ya. Ya. Yarzhemskiy, All-Union Sci Res Inst of Halurgy, 3 pp "Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2 Describes results of studies made on the slate levels of the Cambrian layers of the southeastern boundary regions of the Siberian platform, by means of shafts sunk in the vicinity of Bulaya, Polovina Station on the East Siberian Railway, the confluence of the Belaya and Irkut Rivers, and around the southwestern regions of Lake Baykal. Submitted by Academician D. S. Belyankin, 11 Feb 1948.	USSR/Geology Quartz Apr 1948 "Quartz in the Jurassic Deposits of the Southern Slope of the Main Caucasian Range (Azerbaijdzhan SSR)," A. N. Solovkin, 4 pp "Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2 Presents one part of the work of studying the petrography of the southeastern part of Greater Caucasus as source on formation of the stratigraphy of Apsheron. No mineralogical description of the Mesozoic layers. Describes the role of quartz in complex deposits of southern slopes of the Caucasus range. Submitted by Academician D. S. Belyankin, 14 Feb 1948.	
FDB 62T54	FDB 62T55	
USSR/Geology Granite Apr 1948 "Rapakivi Granite and Alkali Rocks of the Ukraine," V. I. Luchitskiy, Act Mem, Acad Sci USSR, 3 pp "Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2 Recently there have been discovered traces of alkali rock in plutonic rapakivi, and rapakivi granites of the Ukraine. Describes location of alkali rocks that are genetically bonded with rapakivi. Submitted, 14 Feb 1948.	USSR/Geology Rock Formation Apr 1948 "Hyperbasic Belts of the Sayan-Altai Mountain System," V. A. Kuznetsov, Western Siberian Br, Acad Sci USSR, 3 pp "Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2 Presents data to prove incorrect the general supposition that the western Siberian regions are poor in hyperbasic rock formations. Submitted by Academician V. A. Obruchev, 2 Feb 1948.	
FDB 62T56	FDB 62T57	

RESTRICTED		FDB Periodical Abstracts Scientific No 62		RESTRICTED			
USSR/Geology Stratification		Apr 1948		USSR/Geology Hydrography		Apr 1948	
"New Data on the Stratigraphy of the Pechensk Formation on the Kola Peninsula," N. A. Kuryleva, 2 pp				"Currents of Coastal Alluvium on the Caucasian Littoral of the Black Sea," V. P. Zenkovich, Inst of Oceanology, Acad Sci USSR, 3 pp			
"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2				"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2			
Briefly describes new geologic formations discovered during 1945 survey in the Pechensk tundra region, in the vicinity of the Dolomit Cape, Pitkyaloukko Bay. Clay obtained was found to be heavily crystallized and served as poor medium for preservation of organic remains. Submitted by Academician D. S. Belyankin, 14 Feb 1948.				Briefly describes the currents carrying alluvial deposits along the littoral of the Black Sea as reason for changes in the coast line, and coastal hydrography. Submitted by Academician P. P. Shirshov, 13 Feb 1948.			
FDB		62T58		FDB		62T59	
USSR/Geology Stratification		Apr 1948		USSR/Medicine - Fungi Medicine - Genetics		Apr 1948	
"Discovery of <i>Platygena Asiatica</i> Rom. in the South Tadzhik Depression," M. N. Gramm, 2 pp				"Experimental Synthesis of <i>Avenastrum</i> Amphidiploids," F. L. Lesik, 2 pp			
"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2				"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2			
Describes two cross sections of soil stratigraphy obtained from area some 17 km to the northwest of the regional center Bel'dzhuan. Subject fossils discovered in the course of the studies. Submitted by Academician D. V. Nalivkin, 6 Feb 1948.				Results of tests to determine the experimental synthesis of subject fungus accomplished by vibrating fungus spores. Submitted by Academician N. A. Maksimov, 2 Feb 1948.			
FDB		62T60		FDB		62T61	
USSR/Medicine - Vertebrates Medicine - Soil		Apr 1948		USSR/Medicine - Fish Medicine - Teeth		Apr 1948	
"Significance of Soil as a Habitat in the Phylogenesis of Surface Vertebrates," M. S. Gilyarov, Lab of Invertebrates, Inst Evolutionary Morph imeni A. N. Severtsov, Acad Sci USSR, 3½ pp				"Construction and Genesis of Dentine in Osseous Fish (Pike and Carp)," G. Yasvoin, Inst Experimental Med, Leningrad, 3 pp			
"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2				"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2			
Soil can serve as living media for both air breathers and vertebrates requiring a water habitat. Author shows how this is possible. Submitted by Academician I. I. Shmal'gauzen, 13 Feb 1948.				Data on the formation of dentine and teeth in bony fish. Submitted by Academician I. I. Shmal'gauzen, 13 Feb 1948.			
FDB		62T62		FDB		62T63	
USSR/Medicine - Cells - Regeneration Medicine - Morphology, Experimental		Apr 1948		USSR/Medicine - Heredity Medicine - Abnormalities and Deformities		Apr 1948	
"Histogenic Processes and Development of Auxiliary Extremities Following an Internal Injury to the Axolotl," A. N. Studitskiy, Inst Evolutionary Morph imeni A. N. Severtsov, Acad Sci USSR, 3½ pp				"The Phenomenon of Hereditary Monstrosity as a Manifestation of Malformation Potentiality," A. A. Voytkevich, Kazakh Med Inst, Alma-Ata, 4 pp			
"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2				"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2			
Experiments to show the regeneration of cells after injury to the axolotl. Shows that histogenic processes are classed as tissue-forming. Submitted by Academician I. I. Shmal'gauzen, 12 Feb 1948.				Discovered one frog with malformation of dual right legs. This led to further studies which showed that out of 2,500 tadpoles there were some 73 with malformation of dual right legs. Briefly describes hereditary factors of this phenomenon. Submitted by Academician I. I. Shmal'gauzen, 13 Feb 1948.			
FDB		62T64		FDB		62T65	

RESTRICTED	FDB Periodical Abstracts Scientific No 62	RESTRICTED
USSR/Medicine - Thyroid Medicine - Morphology Apr 1948	USSR/Medicine - Leukocytes - Morphology Medicine - Starch - Effects Apr 1948	
"Modifications in the Thyroid Gland of Guinea Pig Embryos Due to the Effect of Methylthiouracil on Pregnant Females," M. S. Mitskevich, Inst Evolutionary Morph imeni A. N. Severtsov, Acad Sci USSR, 4 pp	"Modification in the Diameter, Volume, and Surface of Human Leukocytes Through Absorption of Starch Granules in Vitro," V. V. Pravdich-Neminskiy, 3 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2	"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2	
Studies conducted on function of embryological thyroid tissues. In the event of high GTK (hypophase-thyroid complex) it was possible to determine the effect of methylthiouracil on guinea pig embryos. Submitted by Academician I. I. Shmal'gauzen, 17 Jan 1948.	Experiments to determine the effect of starch granules on the size and volume of phagocytes and the degree of modification in general phagocytic processes. Determined that phagocyte enlarged by 7.25 times after it absorbed as many as 11 starch granules. Submitted by Academician I. I. Shmal'gauzen, 25 Feb 1948.	
FDB 62T66	FDB 62T67	
USSR/Medicine - Animals - Experimentation Medicine - Nervous System Apr 1948	USSR/Metals Indium - Determination Metallurgy Mar 1948	
"The Phenomenon of the Cortex Stereotypy Caused by Interoceptive Impulses," E. Ayrepet'yants, I. Fel'berbaum, Lab of Higher Nervous Activity, Leningrad State U, 4 pp	"Determination of Indium in Lead Bearings," Z. S. Mikhina, All-Union Inst Aviation Materials, 1 p	
"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2	"Zavod Lab" Vol XIV, No 3	
Higher nervous activities are not only factors of external influences but also of those uncalculable neural impulses originating within the organism. Describes results of experiments conducted on a test dog. Submitted by Academician K. M. Bykov, 10 Feb 1948.	Describes very favorable results obtained for indium determination in lead bearings using ammonium acetate. Experiments were conducted on lead nitrate solutions containing indium. Comparison of this method to the polarographic method shows that the former has considerable time-saving advantage.	
FDB 62T68	FDB 62T69	
USSR/Metals Phosphorus - Determination Metallurgy Mar 1948	USSR/Metals Metallurgy Electrochemistry Mar 1948	
"A Semimicrochemical Method of Determining Phosphorus in Cast Iron," Ye. Ya. Shmalevich, Chernokholunitskiy Metal Works, 2 p	"New Electrochemical Methods for Finishing Metals in Laboratory Practice," L. Ya. Popilov, 3 pp	
"Zavod Lab" Vol XIV, No 3	"Zavod Lab" Vol XIV, No 3	
Method for determining phosphorous content is a slight variation of the alkalimetric method of determination. Variation requires lesser amount of pig for experiments.	Describes laboratory equipment for anode-mechanical cutting of metals and alloys; anode-mechanical milling of laboratory samples. Briefs performance of the equipment and quality of the finishing processes.	
FDB 62T70	FDB 62T71	
USSR/Metals Zirconium Magnesium Alloys - Analysis Mar 1948	USSR/Metals Boron - Determination Colorimetry Mar 1948	
"Spectral Analysis Method for Determining Zirconium in Magnesium Alloys," O. I. Mladentseva, All-Union Inst Aviation Materials, 2 p	"Colorimetric Method of Boron Determination in Borate Ores Under Field Conditions," V. A. Kazari-nova-Okmina, State Inst for Mining Chem Ores, 3 pp	
"Zavod Lab" Vol XIV, No 3	"Zavod Lab" Vol XIV, No 3	
Observations conducted on the ultraviolet band of the spectrum with the aid of type O-24 spectrograph. This method permits determination of zirconium in amounts of 0.3 to 1%. Tests conducted at GiRedMet.	Quantitative reaction on boron with carminite can also be used in colorimetric quantitative determination of boron in borate ores. Permits rapid and easy determination of boron with fair degree of accuracy, thus method can be used in the field.	
FDB 62T72	FDB 62T73	

RESTRICTED		FDB Periodical Abstracts Scientific No 62		RESTRICTED	
USSR/Metals Zinc - Determination Aluminum Alloys Mar 1948		USSR/Metals Nickel - Determination Steel Alloys Mar 1948			
<p>"Microchemical Determination of Small Amounts of Zinc by Dithizone (Diphenylthiocarbazone) in Aluminum Alloys," Ye. I. Nikitina, All-Union Inst Aviation Materials, 3 pp</p> <p>"Zavod Lab" Vol XIV, No 3</p> <p>Method permits determination of zinc content from several % to one or two tenths of %. Possible to determine ten hundredths percent of zinc in spite of the large presence of aluminum. Method is simple, however, much preparation is necessary to purify the reagents due to the sensitivity of dithizone.</p> <p>FDB 62T74</p>		<p>"A Semimicrochemical Method of Nickel Determination in Alloyed Steels," B. A. Genozov, Cent Sci Res Inst Ferrous Metal, 3 pp</p> <p>"Zavod Lab" Vol XIV, No 3</p> <p>Develops semimicrochemical variation of the replacement cyanometric method of determining nickel. Differs from usual macrometric method of determining weight composition. Determines best methods for conducting these experiments. It is accurate and requires little time and a minimum of apparatus and materials.</p> <p>FDB 62T75</p>			
USSR/Metals Bismuth - Determination Titration Mar 1948		USSR/Minerals Molybdenum - Determination Titration Mar 1948			
<p>"Microvolumetric Determination of Bismuth," M. B. Shchigol', Kiev Med Inst, 2 pp</p> <p>"Zavod Lab" Vol XIV, No 3</p> <p>Determined that bismuth ions in compounds with acetic acid and chromate, bichromate, iodate, or oxalate produce salts that are basically difficult to dissolve. Method is based on iodometric titration of chromate or iodate residues.</p> <p>FDB 62T76</p>		<p>"Chromometric Titration Method for Determining Molybdenum in the Presence of Tungsten," V. G. Goryushina, T. V. Cherkashina, State Sci Res Inst Rare and Fine Metals, 8 pp</p> <p>"Zavod Lab" Vol XIV, No 3</p> <p>Determining molybdenum in the presence of tungsten is usually rather complex analysis as both elements have chemical characteristics that are very similar. Describes equipment and procedure for the titration method of analysis which so far has given very good results.</p> <p>FDB 62T77</p>			
USSR/Minerals Coal Phosphorous Compounds Mar 1948		USSR/Mines and Mining Mining Industry - Development Mining Machinery Jan 1948			
<p>"Analysis of Phosphorous Compounds in Coals," M. F. Klimovskaya, Cent Lab, Western Siberian Geol Adm, 3 pp</p> <p>"Zavod Lab" Vol XIV, No 3</p> <p>Determination of phosphorus in compounds with calcium, magnesium, aluminum, or iron. Brief passage on determination of pH in organic compounds.</p> <p>FDB 62T78</p>		<p>"The Transition to Complex Mechanization of Coal Mines," I. G. Kurakov, Deputy Tech Council for Mechanization of Difficult and Heavy Work, Council of Ministers USSR, 6½ pp</p> <p>"Mekh" No 1</p> <p>Attempts to clarify series of questions that has arisen in connection with fundamentals of new machinery and mechanisms, and to stress the importance of planned and regulated reconstruction of operating shafts (mines), and installing complex mechanization.</p> <p>FDB 62T79</p>			
USSR/Mines and Mining Mining Machinery Machinery - Construction Jan 1948		USSR/Mines and Mining (Contd) Jan 1948			
<p>"Basic Problems in the Development of Mining Machinery," Prof A. O. Spivakovskiy, Corr Mem, Acad Sci; Docent A. V. Yevnevich, 5 pp</p> <p>"Mekh" No 1</p> <p>Discusses requirements that must be met by mining machinery, basic tasks for machine construction enterprises and measures necessary for further development of this line of machinery.</p> <p>FDB 62T80</p>		<p>Photograph of typical aerial view of mine surface buildings and plant layout.</p> <p>FDB 62T79</p>			

RESTRICTED	FDB Periodical Abstracts Scientific No 62	RESTRICTED	
USSR/Mines and Mining Mining Equipment Flows  "A New Mining Banking Plov 'Ural'," A. K. Sidorenko, Engr, $\frac{1}{2}$ p  "Mekh" No 1  New 20-ton plov for use in uncovering mineral deposits in open-pit mines. Manufactured by Magnitogorsk Works for Mining Equipment; first produced in 1947.	Jan 1948	USSR/Mines and Mining Mining Methods Hydromechanics  "Prospects for the Application of Hydromechanization for Extracting Boron Iron Ores of the Urals," S. D. Batishchev-Tarasov, $3\frac{1}{2}$ pp  "Mekh" No 2  Discusses contemporary status of methods for digging and dressing boron iron ores, evaluation of the dressed quality of Alapayevskiy type ores, value of hydromechanization in digging and dressing of ores, proposed means for adapting hydromechanization to actual operating conditions, and contributions that it would make to the national economy.	Feb 1948
FDB	62T81	FDB	62T82
USSR/Mines and Mining Explosions, Gas Mines - Safety Precautions  "The Struggle With Unexpected Discharges in No 2 Mine of the Yegorshinugol' Trust (Urals)," I. M. Yarovoy, Mining Engr, 4 pp  "Ugol'" No 3  Describes conditions in the Yegorshin semianthracite deposits which lead to sudden explosions of coal and gas causing destruction and loss of life. No 2 mine has been examined in detail in order that protective measures can be taken in the future.	Mar 1948	USSR/Mines and Mining Mine Construction - Research Mines - Development  "The Problem of the Development of Mine Construction in Lignite Deposits in the Right Bank Oblasts of the Ukraine," L. D. Basharkevich, Engr, Dnepropetrovsk, $1\frac{1}{2}$ pp  "Ugol'" No 3  Discusses research on mine development in the region of Zhitomir, Kiev, Kirovograd, Dnepropetrovsk, and Zaporozh'ye, and establishes method for determining dimensions of the coal field and the most suitable size for the mine.	Mar 1948
FDB	62T83	FDB	62T84
USSR/Mines and Mining Blasting Mine Construction - Research  "Flameless Blasting in the Kuznets Basin," G. N. Podbel'skiy, Candidate Mech Sci, Prokop'yevsk, 2 pp  "Ugol'" No 3  Describes results showing that the first experiment in the use of cardrox- and English hydrox-type charges in the Kuznets basin succeeded, and advocates further research with the object of using this type of blasting in other Soviet mines.	Mar 1948	USSR/Mines and Mining Coal Tools, Cutting  "First Results of the Use of Soviet Coal Cutters," V. G. Yatsikh, Candidate Mech Sci; G. M. Sova, Engr, Stalino, 3 pp  "Ugol'" No 3  First industrial installation of the Soviet coal cutter was made several months ago in No 56 mine of the Voroshilovugol' Trust. The cutter, designated as US-3, was built by the plant imeni Parkhomenko, Voroshilovgrad. Describes its performance.	Mar 1948
FDB	62T85	FDB	62T86
USSR/Mines and Mining Mining Machinery Coal  "Industrial Test of the VNATI Coal Combine," G. F. Lyubenko, Mining Engr, $\frac{1}{2}$ p  "Ugol'" No 3  Describes trials of VNATI coal combine at the mine imeni Kalinin of the Andreyevugol' trust. Trials were successful and the combine will be put into production soon.	Mar 1948	USSR/Mines and Mining Mining Methods Mines - Construction  "News" 1 p  "Ugol'" No 3  Reports on Scientific and Technical Conference called by the Moscow Mining Institute imeni I. V. Stalin, an account of work of the Bureau of Technical Information, thematic plan of publications of the State Coal Technical Publishing House, and plan of scientific research work for 1948. Includes reports by Professors P. M. Tsimbarevich and E. F. Sheshko on establishment of technical laws for mining, and the	Mar 1948
FDB	62T87	FDB	62T88



RESTRICTED		FDB Periodical Abstracts Scientific No 62		RESTRICTED	
USSR/Mines and Mining Explosions, Dust - Coal		Mar 1948		USSR/Mines and Mining (Contd) Mar 1948	
"Explosion in the Hon-kei-ko [Pen-ch'i-hu] Mine in Manchuria" 1 p				problem of building coal mines during the new Five-Year Plan, and lists the nine principal objectives for scientific research workers in 1948.	
"Ugol'" No 3					
It is now known that the greatest coal mine disaster in the world occurred at the Hon-kei-ko mine in Manchuria, 26 Apr 1942, when 1,549 people lost their lives. The explosion was caused by breakdown of electric power which stopped the mine ventilators. When electric leads were repaired and the current was switched on, spark ignited the accumulated gas.					
FDB	62T89	FDB	62T88		
USSR/Mines and Mining Coal - Production Statistics		Mar 1948		USSR/Mines and Mining Mining Industry Bibliography Mar 1948	
"Incorrect Calculations--Erroneous Results," Ya. I. Levchenko, Engr, Tula, 1 p				"New Books and Magazine Articles on Mining" 2 pp	
"Ugol'" No 3				"Ugol'" No 3	
Reviews "Production Losses of Coal in Mines of the Moscow Basin, and the Struggle Against Them" by S. D. Sonin. Exhaustive and destructive criticism of book which contains production figures, stated in percentages, for the main coal combines in the Moscow basin.				Lists number of books and articles on the mining industry (general), geological research, sinking of mine shafts, blasting, reinforcement of mine workings, working systems, and mechanization of coal mining.	
FDB	62T90	FDB	62T91		
USSR/Nuclear Physics - Electrons - Annihilation Nuclear Physics - Positrons - Annihilation		Apr 1948		USSR/Nuclear Physics - Electrons - Annihilation Nuclear Physics - Positrons - Annihilation Apr 1948	
"Tri-Photon Annihilation of Electrons and Positrons," Ye. M. Lifshits, Inst Phys Problems, Acad Sci USSR, 2 pp				"Principles of Selection in the Annihilation of Electrons and Positrons," I. Pomeranchuk, 3 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2				"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2	
Mathematical formulas for calculating the subject annihilation. Submitted by Academician L. D. Landau, 5 Feb 1948.				Describes studies conducted to confirm the findings of Dirac in subject field of science. Submitted by Academician L. D. Landau, 5 Feb 1948.	
FDB	62T92	FDB	62T93		
USSR/Nuclear Physics - Particles - Spin Nuclear Physics - Photons - Moments		Apr 1948		USSR/Nuclear Physics - Wave Mechanics Nuclear Physics - Deuterons Apr 1948	
"Moments of a System of Two Photons," Academician L. D. Landau, Inst Phys Problems, Acad Sci USSR, 2 pp				"Normalization of the Wave Function of the Deuteron," Ya. Smorodinskiy, 2 pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2				"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2	
Discusses the question of the annihilation of slow positrons and electrons as postulated by Pomeranchuk, who stated that in the boundary cases fixed particles, having true two-photon annihilation, return to a zero state if the spin of the electron and positron is parallel. Explains the problem of whether or not this rule can also be applied to electromagnetic waves. Submitted, 5 Feb 1948.				Describes the calculations to the integral $\int_0^{\infty} f^2 dr$ necessary for the normalization of Bett's, and Peyerl'som approximation of the wave function of deuterons: $\psi_d \sim \frac{1}{re} e^{-\alpha r}$ .	
Submitted, 5 Feb 1948.				Submitted by Academician L. D. Landau, 17 Feb 1948.	
FDB	62T94	FDB	62T95		

FDB Periodical Abstracts Scientific No 62		FDB Periodical Abstracts Scientific No 62	
USSR/Physics Creep Tests Steel - Reaction	Apr 1948	USSR/Physics Light - Measurements Optics, Physical	Apr 1948
"Comparative Creep Characteristics of Type 14/14 Nickel-Chrome and Manganese-Chrome Thermostable Steel," A. M. Borzdyka, 3 pp		"One Possibility of an Equation of Depth of Modulation in the Kerr Effect," N. A. Tolstoy, P. P. Feofilov, State Opt Inst, 3 pp	
"Dok Akad Nauk SSSR, Nova Ser". Vol LX, No 2		"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2	
Describes steel used and methods employed for thermal testing. Determined that microstructure of steel had greater effect of creep resistance than chemical composition of the steel alloy. Submitted by Academician G. G. Urazov, 15 Jan 1948.		Describes fundamentals of method for measuring Kerr effect. Presents method for calculating intensity of the light passing through the analyzer. Submitted by Academician S. I. Vavilov, 18 Feb 1948.	
FDB	62T96	FDB	62T97
USSR/Physics Electromagnetic Waves Mathematics - Equations, Maxwell's	Apr 1948	USSR/Physics Vapor Pressure Low Temperature Research	Mar 1948
"Solution of the Problem of the Defraction of a Plane Electromagnetic Wave From a Paraboloid of Rotation of Indefinite Dimensions With the Aid of Laguerre's Function," R. G. Mirmanov, Inst Automatics and Telemech, Acad Sci USSR, 4 pp		"An Investigation of the Vapor-Phase Reactions of Substances Having Low Vapor Pressure at Room Temperature," N. M. Emanuel', Inst Phys Chem, Acad Sci USSR, 2½ pp	
"Dok Akad Nauk SSSR, Nova Ser" Vol LX, No 2		"Zavod Lab" Vol XIV, No 3	
Presents mathematical formulas for making subject calculations. Two categories: 1) for system of parabolic coordinates connected by angular coordinates, and 2) discussion of Maxwell's equation. Submitted by Academician B. A. Vvedenskiy, 24 Feb 1948.		New method developed to determine vapor-phase reactions for substances characterized by low vapor pressures. Formulas for using data obtained from apparatus readings.	
FDB	62T98	FDB	62T99
USSR/Physics Colorimetry Instruments, Measuring	Mar 1948	USSR/Soil Science Geography	Feb 1948
"The IZV-1 Vertical Colorimeter," M. K. Dubinskiy, 4 pp		"A Trip Into Bulgaria," I. P. Gerasimov, I. N. Antipov-Karatayev, 2½ pp	
"Zavod Lab" Vol XIV, No 3		"Pochvoved" No 2	
Produced by the Optical Mechanical Works imeni OGPU. It is improvement on the old comparometer, and should find wide use in industry for making linear measurements in machine and instrument construction fields. Describes precision of measurements, margin of error of the instrument (error caused by various parts of the instrument), and the effect of temperature on precision of measurements.		Describes desert, forest soils, soils of high altitude peat regions, and azonal or nonclimatic soils. Genetic types of soil in Bulgaria. Trip was of short duration; nevertheless, authors were able to obtain fair amount of data.	
FDB	62T100	FDB	62T101
USSR/Soil Science Phosphorus - Determination	Feb 1948	USSR/Soil Science Water Vapor - Adsorption	Feb 1948
"Methods for Calculating the Mineral Content and Organic Phosphorous Compounds in Some Soils of the Soviet Union," D. M. Kheyfets, 12½ pp		"Adsorption of Water Vapors by Soils," L. A. Zuyev, Lab Physicochem Soils, VIUAA imeni Gedroyts; Ye. N. Gapon, Lab Physicochem, Moscow Agr Acad imeni Timiryazev, 7½ pp	
"Pochvoved" No 2		"Pochvoved" No 2	
Importance of organic phosphorous compounds in the soil held no meaning until recently as it was thought that all phosphorous compounds in the soil were mineral compounds. Recently the organic forms were found to be very important. Briefs chemical methods for determining the content of both mineral and organic phosphorous compounds in Soviet soils.		Results of measurement of water vapor adsorption with the aid of MacBaine scales. The adsorption curve frequently is S-shaped. Freundlich's equations used for initial stages of the experiments. No data obtained on the absorption of cation with reference to adsorption of water vapors.	
FDB	62T102	FDB	62T103

FDB Periodical Abstracts Scientific No 62		FDB Periodical Abstracts Scientific No 62	
USSR/Soil Science Wind Erosion Feb 1948	USSR/Soil Science Bibliography Feb 1948	USSR/Soil Science Bibliography Feb 1948	USSR/Soil Science Bibliography Feb 1948
"Wind Erosion, Its Prevention and Control," V. V. Dzetovetskiy, Engin Meliorative Inst, Novocherkassk, 6 pp	"Bibliography" 5 pp	"Bibliography" 5 pp	"Bibliography" 5 pp
"Pochvoved" No 2	"Pochvoved" No 2	"Pochvoved" No 2	"Pochvoved" No 2
Aspects of wind erosion in Krasnodar and Stavropol Krays of Rostov Oblast, and means of controlling harmful effects. Pays particular attention to the direction and speed of the winds.	Lists Soviet and foreign books on genesis, geography, and cartography of soils; physics of the soil; soil chemistry; and biology and fertility of the soil.	Lists Soviet and foreign books on genesis, geography, and cartography of soils; physics of the soil; soil chemistry; and biology and fertility of the soil.	Lists Soviet and foreign books on genesis, geography, and cartography of soils; physics of the soil; soil chemistry; and biology and fertility of the soil.
FDB 62T104	FDB 62T105	FDB 62T105	FDB 62T105
USSR/Transportation Automotive Transport Feb 1948	USSR/Transportation Automobiles Military Equipment Feb 1948	USSR/Transportation Automobiles Military Equipment Feb 1948	USSR/Transportation Automobiles Military Equipment Feb 1948
"An Important Reason For the Reduction in the Cost of Automotive Freight Transport," N. Filatov, 2 pp	"The Automobile in the Soviet Army" 2 pp	"The Automobile in the Soviet Army" 2 pp	"The Automobile in the Soviet Army" 2 pp
"Avto" No 2	"Avto" No 2	"Avto" No 2	"Avto" No 2
Automotive transport plays a vital role in Soviet national economy. Reduction by 1% in the over-all cost of such transport would result in annual saving of 100 million rubles. States that because this saving would create all-around reduction in prices, everyone is urged to suggest means for reducing the cost of automotive transport.	The automobile played very important part in making possible the now historic effectiveness of the Soviet Army during World War II. Relates how the automobile made this possible. War showed that the Army needed a specialized organization for scientific studies of military vehicles. Every automobile worker can consider himself to be a front-line soldier guaranteeing the safety of the Soviet people.	The automobile played very important part in making possible the now historic effectiveness of the Soviet Army during World War II. Relates how the automobile made this possible. War showed that the Army needed a specialized organization for scientific studies of military vehicles. Every automobile worker can consider himself to be a front-line soldier guaranteeing the safety of the Soviet people.	The automobile played very important part in making possible the now historic effectiveness of the Soviet Army during World War II. Relates how the automobile made this possible. War showed that the Army needed a specialized organization for scientific studies of military vehicles. Every automobile worker can consider himself to be a front-line soldier guaranteeing the safety of the Soviet people.
FDB 62T106	FDB 62T107	FDB 62T107	FDB 62T107
List of Abbreviations used in FDB Periodical Abstracts	List of Abbreviations used in FDB Periodical Abstracts	List of Abbreviations used in FDB Periodical Abstracts	List of Abbreviations used in FDB Periodical Abstracts
ID Intelligence Division Library	ID Intelligence Division Library	ID Intelligence Division Library	ID Intelligence Division Library
AMC Air Documents Division, Air Materiel Command	AMC Air Documents Division, Air Materiel Command	AMC Air Documents Division, Air Materiel Command	AMC Air Documents Division, Air Materiel Command
ST Reference Division, State Department	ST Reference Division, State Department	ST Reference Division, State Department	ST Reference Division, State Department
BM Bureau of Mines, Department of Interior	BM Bureau of Mines, Department of Interior	BM Bureau of Mines, Department of Interior	BM Bureau of Mines, Department of Interior
BS National Bureau of Standards	BS National Bureau of Standards	BS National Bureau of Standards	BS National Bureau of Standards
SI Smithsonian Institution	SI Smithsonian Institution	SI Smithsonian Institution	SI Smithsonian Institution
LC Library of Congress	LC Library of Congress	LC Library of Congress	LC Library of Congress
FDB Foreign Documents Branch, CIA	FDB Foreign Documents Branch, CIA	FDB Foreign Documents Branch, CIA	FDB Foreign Documents Branch, CIA
COM Department of Commerce	COM Department of Commerce	COM Department of Commerce	COM Department of Commerce
AF A-2 Library, USAF	AF A-2 Library, USAF	AF A-2 Library, USAF	AF A-2 Library, USAF